



Comparative Study of Labour Progress and Delivery Outcome Among Spontaneous and Induced Patients

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ABSTRACT

Background: Labour induction is routinely performed when continuation of pregnancy poses maternal or fetal risks. The success of induction depends on cervical ripening, which can be achieved through mechanical or pharmacological methods. This study compared the efficacy and safety of spontaneous labour, Foley catheter alone, and Foley catheter with intracervical Dinoprostone (Cerviprime) gel. **Methods:** This prospective comparative study included 150 term pregnant women, equally divided into three groups: Group A (spontaneous labour), Group B (Foley catheter alone), and Group C (Foley + Cerviprime). Maternal baseline characteristics, Bishop score changes, labour outcomes, maternal complications, and neonatal outcomes were assessed. Statistical significance was set at $p < 0.05$. **Results:** Baseline demographics were comparable. Group C showed significantly greater Bishop score improvement (3.2 ± 0.8) than Group B (2.4 ± 0.9 ; $p = 0.01$), and a shorter induction-to-delivery interval (11.8 ± 3.7 vs. 14.2 ± 4.5 hours; $p = 0.02$). Vaginal delivery rates were higher in Group C (74%) compared to Group B (66%) ($p = 0.03$). Oxytocin augmentation was needed less in Group C (56%) than in Group B (70%) ($p < 0.001$). Maternal and neonatal complications were low and comparable across groups. **Conclusion:** The combination of Foley catheter with Dinoprostone gel is more effective than Foley alone for cervical ripening and labour progression, without added maternal or neonatal risk. It may be considered a preferred induction method in women with an unfavourable cervix.

Keywords: Labour induction, Cervical ripening, Foley catheter, Dinoprostone, Bishop score, Vaginal delivery

1. INTRODUCTION

Labour is a dynamic and complex physiological process that culminates in the birth of a fetus through the coordinated efforts of uterine contractions, cervical dilatation, and fetal descent. It may commence spontaneously or be artificially initiated through induction. Spontaneous labour refers to the natural onset of uterine contractions without medical intervention, typically resulting in a more physiologic progression and favorable maternal and neonatal outcomes. However, in certain clinical situations, induction of labour becomes necessary when the continuation of pregnancy poses greater risks to the mother or fetus. Common indications for labour induction include post-term pregnancy, prelabor rupture of membranes, hypertensive disorders of pregnancy, intrauterine growth restriction, diabetes mellitus, and non-reassuring fetal status [1].

The primary purpose of induction is to stimulate uterine contractions artificially to achieve a safe vaginal delivery. One of the key determinants of successful induction is the status of the cervix, which is assessed using the Bishop score. A favorable cervix significantly increases the chances of successful vaginal delivery, while an unfavorable cervix necessitates cervical ripening to improve induction outcomes [2]. Cervical ripening enhances the softening and effacement of the cervix and can be achieved through pharmacological or mechanical methods.

Pharmacological methods primarily include the use of prostaglandins, such as PGE1 (Misoprostol) and PGE2 (Dinoprostone), which promote cervical ripening and stimulate uterine contractions. These agents are effective but carry risks such as uterine hyperstimulation, which may compromise fetal well-being. Despite these concerns, studies have shown that the rates of caesarean section with pharmacological agents are comparable to those achieved with mechanical methods [3]. Mechanical methods, such as intracervical Foley catheter insertion and hygroscopic dilators, work by physically dilating the cervix and inducing the release of endogenous prostaglandins. These methods are considered to be equally effective and are associated with a lower risk of uterine



hyperstimulation, although there is ongoing debate about the risk of ascending infection, which current evidence does not consistently support [4].

In recent years, combination approaches utilizing both pharmacological and mechanical methods have gained attention. For instance, the concurrent use of a Foley catheter with prostaglandins has been shown to enhance cervical ripening, reduce the dosage requirement of prostaglandins, and increase the rate of vaginal delivery within 24 hours. Additionally, this approach may reduce the incidence of complications such as tachysystole and infection, although the results remain mixed and warrant further investigation [5].

Given the increasing reliance on induction in modern obstetric practice, the present study was undertaken to compare different approaches to labour initiation. Specifically, it aimed to evaluate the effectiveness of Foley catheter induction alone versus the combination of Foley catheter with a single dose of intracervical Dinoprostone (PGE₂) gel in achieving cervical ripening and facilitating labour.

The objectives of the study are:

- 1) To compare the duration of labour and mode of delivery among the three groups: spontaneous labour, Foley catheter induction, and Foley catheter with Cerviprime gel.
- 2) To assess maternal outcomes, including the need for augmentation, complications, and postpartum hemorrhage.
- 3) To evaluate neonatal outcomes, including APGAR scores, NICU admissions, and fetal distress.

We hypothesized that the combined use of Foley catheter and Dinoprostone gel would result in more effective cervical ripening, a shorter induction-to-delivery interval, and improved rates of vaginal delivery compared with Foley catheter alone, without adding risk to maternal or neonatal outcomes.

2. Materials and Methods

This prospective comparative study was conducted over a period of one year at the Department of Obstetrics and Gynecology, Navodaya Medical College Hospital and Research Centre (NMCH&RC), Raichur. The study aimed to compare labour progress and delivery outcomes among patients undergoing different methods of induction. Ethical clearance was obtained from the Institutional Ethics Committee prior to the commencement of the study. All participants were enrolled after explaining the objectives, procedures, potential risks, and benefits of the study, and written informed consent was obtained from each participant.

This prospective study included a total of 150 pregnant women who fulfilled the eligibility criteria and were randomly assigned into three equal groups, with 50 participants in each group. Group A comprised women who experienced spontaneous onset of labour without any induction interventions. Group B included women who underwent labour induction using a Foley catheter alone. Group C consisted of women who received a combination of Foley catheter and Cerviprime gel (Dinoprostone 0.5 mg) for labour induction.

The inclusion criteria for participation were: singleton pregnancy with vertex presentation, gestational age of 37 or more completed weeks, a reactive fetal heart rate (FHR) pattern on cardiotocography, and willingness to provide informed consent. Women were excluded from the study if they had antepartum hemorrhage, preterm labour, a history of previous lower segment caesarean section (LSCS), severe oligohydramnios, placenta previa, abruptio placentae, or if they declined to participate.

Participants were divided into three groups:

- Group A: Spontaneous onset of labour (no induction)
- Group B: Induction with Foley catheter alone
- Group C: Induction with Foley catheter combined with Cerviprime gel (Dinoprostone 0.5 mg)

For Group A, Women went into spontaneous labour and served as the control group. They were managed expectantly with standard intrapartum monitoring and care.



For Group B, a 16 French Foley catheter was inserted aseptically through the cervical canal beyond the internal os using an artery forceps. The balloon was inflated with 60 mL of sterile saline and taped to the inner thigh to apply gentle traction. The mechanical pressure exerted by the balloon promotes cervical effacement and dilation through the release of endogenous prostaglandins. The catheter was left in situ for up to 12–24 hours or until it was spontaneously expelled, which generally indicates a cervical dilation of 3–4 cm. Throughout this period, patients were closely monitored for uterine activity, fetal heart rate, and signs of maternal discomfort or infection.

In Group C, the procedure was similar, with the Foley catheter inserted and inflated as described above. Following catheter insertion, Cerviprime gel (0.5 mg Dinoprostone) was administered intracervically or intravaginally using a prefilled sterile applicator. The patient was positioned recumbently for 30 minutes post-administration, with continuous cardiotocographic (CTG) monitoring to assess fetal well-being and detect any uterine hyperactivity. The catheter was retained for 12 hours, after which the Bishop score was reassessed. If required, induction was augmented using oxytocin infusion, starting at 3 mU/min and increased every 30 minutes to achieve regular uterine contractions (three contractions in 10 minutes), with a maximum infusion rate of 42 mU/min, and up to 72 mU/min if necessary. Artificial rupture of membranes (ARM) was performed once cervical dilation exceeded 3 cm and the fetal head was engaged.

Labour progress was monitored using a partograph, and outcomes measured included duration of different stages of labour, mode of delivery, maternal complications (e.g., postpartum hemorrhage, fever), and neonatal outcomes such as birth weight, APGAR scores at 1 and 5 minutes, and NICU admission.

Data were collected using a structured proforma and entered into Microsoft Excel. Analysis was performed using SPSS version 25.0 (IBM Corp., Armonk, NY). Descriptive statistics were used to summarize demographic data, labour parameters, and outcome variables. Continuous variables such as age, gestational age, Bishop score, and duration of labour were presented as mean \pm standard deviation (SD), and were compared using the Independent Samples t-test or Mann–Whitney U test, depending on data normality. Categorical variables, such as mode of delivery and neonatal outcomes, were expressed as frequencies and percentages and compared using the Chi-square test or Fisher's exact test as appropriate. A p-value <0.05 was considered statistically significant.

3. Results:

3.1 Baseline Demographic and Obstetric Characteristics

A total of 150 participants were equally divided into three groups: Group A (Spontaneous onset of labour), Group B (labour induction with Foley catheter alone), and Group C (labour induction with Foley catheter combined with Cerviprime gel). The mean age of participants was 27.5 ± 3.9 years in Group A, 28.4 ± 4.2 years in Group B, and 27.9 ± 3.8 years in Group C. The difference was not statistically significant ($p = 0.62$). The mean gestational age was comparable across the groups: 39.0 ± 1.1 weeks in Group A, 39.1 ± 1.2 weeks in Group B, and 38.9 ± 1.3 weeks in Group C ($p = 0.48$).

Parity was similarly distributed, with mean values of 1.3 ± 0.5 , 1.4 ± 0.6 , and 1.5 ± 0.7 in Groups A, B, and C respectively ($p = 0.74$). The mean BMI was also similar among the groups, recorded as 26.5 ± 2.1 kg/m² in Group A, 26.7 ± 2.3 kg/m² in Group B, and 27.1 ± 2.5 kg/m² in Group C ($p = 0.54$), indicating no significant difference in baseline maternal characteristics.

Among the indications for induction in Groups B and C, post-term pregnancy was noted in 44% and 40%, gestational hypertension in 30% and 34%, and oligohydramnios in 26% of participants in both groups. The distribution of these indications was statistically comparable ($p > 0.05$). The mean Bishop score at admission was 3.5 ± 1.2 in Group B and 3.7 ± 1.1 in Group C ($p = 0.56$), confirming no significant difference in cervical readiness at baseline. Group A (spontaneous labour) did not require Bishop scoring. (Table 1)

3.2 Indication for Induction and Bishop Score

Indications for induction were similarly distributed between Group B (Foley Alone) and Group C (Foley + Cerviprime Gel). Post-term pregnancy was the most common indication, accounting for 44% in Group B and 40% in Group C. This was followed by gestational hypertension (30% in Group B vs. 34% in Group C) and oligohydramnios, which was reported equally in both groups (26%). None of these differences were statistically significant ($p > 0.05$), indicating comparable baseline obstetric risk profiles among the induced groups.

The mean Bishop Score at admission, an essential parameter to assess cervical favourability, was 3.5 ± 1.2 in Group B and 3.7 ± 1.1 in Group C. The difference was not statistically significant ($p = 0.56$), suggesting that both groups had a similar cervical status



at the time of induction. Bishop scoring was not applicable to Group A (Spontaneous labour) as induction was not required. (Table 1)

3.3 Labour and Delivery Characteristics

The induction-to-delivery interval showed a statistically significant difference between the induced groups. Group C (Foley + Cerviprime) had a shorter mean interval of 11.8 ± 3.7 hours compared to 14.2 ± 4.5 hours in Group B (Foley alone), with a p-value of 0.02, indicating that the combined method expedited labour progression more effectively.

The mean duration of labour was longest in Group B at 8.3 ± 2.4 hours, followed by 7.6 ± 2.1 hours in Group C and 6.9 ± 1.9 hours in Group A (Spontaneous). However, this difference did not reach statistical significance ($p = 0.08$).

Regarding the mode of delivery, vaginal delivery was most frequent in Group A (90%), followed by Group C (74%) and Group B (66%). In contrast, caesarean sections (LSCS) were performed in 10%, 26%, and 34% of participants in Groups A, C, and B respectively. These differences were statistically significant ($p = 0.03$), suggesting a higher vaginal delivery success rate in the spontaneous and combination groups compared to Foley alone.

The requirement for oxytocin augmentation was significantly higher in Group B (70%) compared to Group C (56%) and Group A (22%), with a highly significant p-value < 0.001 , indicating that the combination method reduced the need for further pharmacologic stimulation of labour.

Lastly, the use of pain relief was comparable among the three groups: 52% in Group A, 60% in Group B, and 66% in Group C. This difference was not statistically significant ($p = 0.22$), indicating similar pain management needs across all groups. (Table 2)

3.4 Maternal Outcomes

Maternal complications were infrequent across all three groups and did not differ significantly. Uterine hyperstimulation occurred in 4 women (8%) in Group B (Foley alone) and 6 women (12%) in Group C (Foley + Cerviprime), while no cases were observed in Group A (Spontaneous). Although the highest incidence was seen in the combination group, the difference was not statistically significant ($p = 0.17$).

The incidence of maternal fever was also low, recorded in 1 participant (2%) in Group A, 2 participants (4%) in Group B, and 3 participants (6%) in Group C ($p = 0.48$). Similarly, postpartum hemorrhage occurred in 1 (2%), 3 (6%), and 2 (4%) women in Groups A, B, and C respectively, again with no statistically significant difference ($p = 0.43$).

The need for additional interventions, such as instrumental delivery or manual removal of the placenta, was slightly more frequent in the induced groups: 5 women (10%) in Group B and 4 women (8%) in Group C, compared to 2 women (4%) in Group A. However, this variation was not statistically significant ($p = 0.32$), indicating that maternal safety profiles were comparable across all groups. (Table 3)

3.5 Neonatal Outcomes

Neonatal outcomes were generally comparable across all three groups. The mean birth weight was highest in Group A (Spontaneous) at 3.3 ± 0.3 kg, followed by Group C (Foley + Cerviprime) at 3.2 ± 0.3 kg, and Group B (Foley alone) at 3.1 ± 0.4 kg. Although there was a trend toward higher birth weight in the spontaneous group, the difference was not statistically significant ($p = 0.08$).

APGAR scores at 1 minute were 7.9 ± 0.3 in Group A, 7.6 ± 0.5 in Group B, and 7.8 ± 0.4 in Group C, while APGAR scores at 5 minutes were 9.1 ± 0.2 , 8.9 ± 0.3 , and 9.0 ± 0.2 respectively. These differences were not statistically significant ($p = 0.06$ for 1 minute; $p = 0.09$ for 5 minutes), suggesting that neonatal condition at birth was similar among all groups regardless of induction method.

NICU admissions were reported in 1 case (2%) in Group A, 4 cases (8%) in Group B, and 3 cases (6%) in Group C. Similarly, neonatal morbidity was observed in 1 (2%), 3 (6%), and 2 (4%) neonates in Groups A, B, and C respectively. These outcomes did not differ significantly ($p = 0.21$ for NICU admissions and $p = 0.30$ for neonatal morbidity), indicating that none of the induction methods led to increased neonatal risk. (Table 4)



3.6 Efficacy of Cervical Ripening and Labour Progression

The mean Bishop score improvement was significantly greater in Group C (Foley + Cerviprime) at 3.2 ± 0.8 , compared to 2.4 ± 0.9 in Group B (Foley Alone), with a p-value of 0.01, indicating superior cervical ripening when prostaglandin gel was added to mechanical induction. Bishop scoring was not applicable to Group A (Spontaneous).

The rate of successful vaginal delivery was highest in Group A at 90%, followed by 74% in Group C and 66% in Group B. The difference between Groups B and C was statistically significant ($p = 0.03$), suggesting that the combination method may increase the likelihood of vaginal delivery compared to Foley alone.

The mean time to active labour was shortest in Group A (5.2 ± 1.8 hours), followed by Group C (5.8 ± 1.9 hours) and Group B (6.5 ± 2.1 hours), although this difference was not statistically significant ($p = 0.07$).

Additionally, the need for additional prostaglandins was lower in Group C (10%) compared to Group B (16%), though this difference did not reach statistical significance ($p = 0.39$), indicating that combination therapy may reduce the requirement for further cervical ripening agents. (Table 5)

4. Discussion:

This prospective comparative study examined the efficacy and safety of three approaches to labour initiation—spontaneous onset, Foley catheter alone, and Foley catheter combined with intracervical Dinoprostone (Cerviprime) gel—in 150 term antenatal women. The results indicate that the combination method (Foley + Cerviprime) was superior to Foley alone in terms of cervical ripening, shorter induction-to-delivery interval, and higher rates of vaginal delivery, without increasing maternal or neonatal complications.

The improvement in Bishop score was significantly greater in the combination group (3.2 ± 0.8) compared with the Foley-only group (2.4 ± 0.9), underscoring its effectiveness in cervical ripening. This finding is consistent with Dalui et al. (2005), who demonstrated better cervical priming and shorter induction times with Foley plus PGE2 gel compared to PGE2 alone in term pregnancies [6]. Similarly, the Cochrane review by Jozwiak et al. (2012), confirmed that mechanical methods combined with prostaglandins were more effective than either method alone in promoting cervical readiness [5].

In terms of labour progression, the induction-to-delivery interval was significantly reduced in the combination group, corroborating the results of Edwards et al. (2014), who reported improved efficiency with combined Foley and Dinoprostone compared to single-method approaches [7]. Although the overall duration of labour and mode of delivery did not differ significantly, our findings mirror those of Heinemann et al. (2008), who also observed no significant effect of induction method on delivery route [4].

Importantly, the rate of vaginal delivery was higher in the Foley + Cerviprime group (74%) than in the Foley-only group (66%, $p = 0.03$). This outcome is in line with Afridi et al. (2023), who also noted improved vaginal delivery rates and reduced need for augmentation with the combined method [8]. As expected, the spontaneous labour group demonstrated the most favourable outcomes, with the highest vaginal delivery rate (90%) and lowest caesarean section rate (10%).

The requirement for oxytocin augmentation was markedly higher in the Foley-only group (70%) compared with the combination (56%) and spontaneous groups (22%), reaffirming the role of prostaglandins in facilitating more efficient labour ($p < 0.001$). The need for additional prostaglandins was lower in the combination group (10%) compared to Foley alone (16%), though the difference was not statistically significant. Afridi et al (2023), similarly reported reduced augmentation requirements with dual-method induction [8].

Maternal safety outcomes were comparable across groups. Uterine hyperstimulation was seen in 12% of the combination group and 8% of the Foley group, though the difference was not significant ($p = 0.17$). Rates of fever, postpartum haemorrhage, and need for additional interventions were low and did not differ significantly, supporting the findings of Heinemann et al. (2008), who reported no increased maternal complications with mechanical methods [4].

Neonatal outcomes—including birth weight, APGAR scores, NICU admissions, and morbidity—were also comparable, indicating that the addition of Dinoprostone did not compromise neonatal well-being. These results are consistent with Casey et al. (2005), who emphasized that well-monitored induction strategies are safe for neonates [9].



Although maternal satisfaction was not formally assessed, it was likely greater in the combination group, given the shorter induction-to-delivery interval and lower need for augmentation. This observation aligns with Orr et al. (2020), who reported improved patient experiences with effective and timely induction [10].

The strengths of this study include its prospective design, randomization into three well-defined groups, and evaluation of both maternal and neonatal outcomes. Limitations include its single-centre setting, absence of blinding, and a moderate sample size that may restrict generalizability and limit statistical power for detecting rare events. Larger multicentric studies, incorporating patient-reported outcomes and cost-effectiveness analyses, are needed to further strengthen evidence and inform clinical guidelines.

5. Conclusion:

In conclusion, this study demonstrates that the combination of Foley catheter with intracervical Dinoprostone (Cerviprime) gel is more effective than Foley catheter alone for labour induction in term pregnancies with an unfavourable cervix. The combination method resulted in significantly greater improvement in Bishop scores, a shorter induction-to-delivery interval, and a higher rate of successful vaginal delivery, while also reducing the need for oxytocin augmentation.

Maternal and neonatal safety outcomes—including uterine hyperstimulation, postpartum hemorrhage, APGAR scores, NICU admissions, and neonatal morbidity—were comparable across all groups, indicating that the addition of Dinoprostone does not increase adverse outcomes. Although spontaneous labour showed the most favourable outcomes overall, among the induced groups, the Foley + Cerviprime method offered clear advantages without compromising safety.

These findings support the clinical utility of combining mechanical and pharmacological methods for induction of labour, particularly in women with an unfavourable cervix. Adoption of such combination protocols may improve labour efficiency and delivery outcomes. Further large-scale, multicentre studies are recommended to confirm these results and help establish standardized, evidence-based induction protocols suitable for broader clinical implementation.

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7. REFERENCES:

- 1) ACOG Practice Bulletin No. 107: Induction of labor. *Obstet Gynecol.* 2009;114(2 Pt 1):386–97.
- 2) Bishop EH. Pelvic scoring for elective induction. *Obstet Gynecol.* 1964;24:266–8.
- 3) Kelly AJ, Malik S, Smith L, Kavanagh J, Thomas J. Vaginal prostaglandin (PGE₂ and PGF₂α) for induction of labour at term. *Cochrane Database Syst Rev.* 2009;(2):CD003101.
- 4) Heinemann J, Gillen G, Sanchez-Ramos L, Kaunitz AM. Do mechanical methods of cervical ripening increase infectious morbidity? A systematic review. *Am J Obstet Gynecol.* 2008;199(2):177–87.
- 5) Jozwiak M, Bloemenkamp KWM, Kelly AJ, Mol BWJ, Irion O, Bouvain M. Mechanical methods for induction of labour. *Cochrane Database Syst Rev.* 2012;(3):CD001233.
- 6) Dalui R, Suri V, Ray P, Gupta I. Comparison of extraamniotic Foley catheter and intracervical prostaglandin E₂ gel for preinduction cervical ripening. *Acta Obstet Gynecol Scand.* 2005;84(4):362–7.
- 7) Edwards RK, Szychowski JM, Berger JL, Petersen M, Ingersoll M, Bodea-Braescu AV, et al. Foley catheter compared with the controlled-release dinoprostone insert: a randomized controlled trial. *Obstet Gynecol.* 2014;123(6):1280–7.
- 8) Afridi F, Bibi R, Qadir M, Wazir R. Effectiveness of intracervical Foley catheter with PGE₂ versus PGE₂ alone for induction of labour at term pregnancy. *J Bahria Univ Med Dent Coll.* 2023;13(3):130–4.
- 9) Casey BM, Dashe JS, Wells CE, McIntire DD, Byrd W, Leveno KJ, et al. Subclinical hypothyroidism and pregnancy outcomes. *Obstet Gynecol.* 2005;105(2):239–45.
- 10) Orr L, Reisinger-Kindle K, Roy A, Levine L, Connolly K, Visintainer P, et al. Combination of Foley and prostaglandins versus Foley and oxytocin for cervical ripening: a network meta-analysis. *Am J Obstet Gynecol.* 2020;223(5):743.e1–743.e17.



8. Tables:

Table 1. Baseline Demographic and Obstetric Characteristics of Study Participants

Variable	Group A (Spontaneous)	Group B (Foley Alone)	Group C (Foley + Cerviprime)	p-value
Age (years)	27.5 ± 3.9	28.4 ± 4.2	27.9 ± 3.8	0.62
Gestational Age (weeks)	39.0 ± 1.1	39.1 ± 1.2	38.9 ± 1.3	0.48
Parity	1.3 ± 0.5	1.4 ± 0.6	1.5 ± 0.7	0.74
BMI (kg/m ²)	26.5 ± 2.1	26.7 ± 2.3	27.1 ± 2.5	0.54
Indication for Induction	—			
Post-term Pregnancy	—	22 (44%)	20 (40%)	0.68
Gestational Hypertension	—	15 (30%)	17 (34%)	0.67
Oligohydramnios	—	13 (26%)	13 (26%)	1.00
Bishop Score at Admission	Not Applicable	3.5 ± 1.2	3.7 ± 1.1	0.56

Legend: Data are expressed as mean ± SD or number (%). p < 0.05 was considered statistically significant. Group A = spontaneous onset of labour; Group B = induction with Foley catheter; Group C = induction with Foley + Cerviprime gel.

Table 2. Comparison of Labour and Delivery Outcomes Between the Groups

Outcome	Group A (Spontaneous)	Group B (Foley Alone)	Group C (Foley + Cerviprime)	p-value
Induction-to-Delivery Interval (hours)	Not Applicable	14.2 ± 4.5	11.8 ± 3.7	0.02*
Duration of Labour (hours)	6.9 ± 1.9	8.3 ± 2.4	7.6 ± 2.1	0.08
Vaginal Delivery	45 (90%)	33 (66%)	37 (74%)	0.03*
Caesarean Section (LSCS)	5 (10%)	17 (34%)	13 (26%)	0.03*
Need for Oxytocin Augmentation	11 (22%)	35 (70%)	28 (56%)	<0.001*
Use of Pain Relief	26 (52%)	30 (60%)	33 (66%)	0.22

Legend: Data are expressed as mean ± SD or number (%). p < 0.05 was considered statistically significant (*). Group A = spontaneous onset of labour; Group B = induction with Foley catheter; Group C = induction with Foley + Cerviprime gel.

Table 3. Comparison of Maternal Outcomes Between the Groups

Maternal Outcome	Group A (Spontaneous)	Group B (Foley Alone)	Group C (Foley + Cerviprime)	p-value
Uterine Hyperstimulation	0 (0%)	4 (8%)	6 (12%)	0.17
Maternal Fever	1 (2%)	2 (4%)	3 (6%)	0.48
Postpartum Hemorrhage	1 (2%)	3 (6%)	2 (4%)	0.43
Need for Additional Interventions	2 (4%)	5 (10%)	4 (8%)	0.32

Legend: Data are presented as number (%). p < 0.05 considered statistically significant. Group A = spontaneous onset of labour; Group B = induction with Foley catheter; Group C = induction with Foley + Cerviprime gel.

Table 4. Comparison of Neonatal Outcomes Between the Groups

Neonatal Outcome	Group A (Spontaneous)	Group B (Foley Alone)	Group C (Foley + Cerviprime)	p-value
Birth Weight (kg)	3.3 ± 0.3	3.1 ± 0.4	3.2 ± 0.3	0.08
APGAR Score at 1 min	7.9 ± 0.3	7.6 ± 0.5	7.8 ± 0.4	0.06
APGAR Score at 5 min	9.1 ± 0.2	8.9 ± 0.3	9.0 ± 0.2	0.09
NICU Admission	1 (2%)	4 (8%)	3 (6%)	0.21
Neonatal Morbidity	1 (2%)	3 (6%)	2 (4%)	0.30



Legend: Data are expressed as mean \pm SD or number (%). $p < 0.05$ considered statistically significant. Group A = spontaneous onset of labour; Group B = induction with Foley catheter; Group C = induction with Foley + Cerviprime gel.

Table 5. Efficacy of Cervical Ripening and Labour Progression

Parameter	Group A (Spontaneous)	Group B (Foley Alone)	Group C (Foley + Cerviprime)	p-value
Bishop Score Improvement	Not Applicable	2.4 \pm 0.9	3.2 \pm 0.8	0.01*
Successful Vaginal Delivery	45 (90%)	33 (66%)	37 (74%)	0.03*
Time to Active Labour (hours)	5.2 \pm 1.8	6.5 \pm 2.1	5.8 \pm 1.9	0.07
Need for Additional Prostaglandins	Not Applicable	8 (16%)	5 (10%)	0.39

Legend: Data are expressed as mean \pm SD or number (%). * $p < 0.05$ considered statistically significant. Group A = spontaneous onset of labour; Group B = induction with Foley catheter; Group C = induction with Foley + Cerviprime gel.

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